ELSEVIER

Carbohydrate Polymers 49 (2002) 520–524

Carbohydrate Polymers

www.elsevier.com/locate/carbpol

# CONTENTS OF VOLUME 49

## Number 1

### Papers

1 Hydrophobic films from maize bran hemicelluloses
E. FREDON, R. GRANET, R. ZERROUKI, P. KRAUSZ (LIMOGES, FRANCE), L. SAULNIER, J. F. THIBAULT (NANTES, FRANCE), J. ROSIER & C. PETIT (EGLETONS, FRANCE)

13 Characterization of storage starches from quinoa, barley and adzuki seeds
H. TANG, K. WATANABE & T. MITSUNAGA (NARA, JAPAN)

23 Ni(II) and Cu(II) binding properties of native and modified sugar beet pulp
Z. REDDAD, C. GÉRENTE, Y. ANDRÈS, M.-C. RALET, J.-F. THIBAULT & P. L. CLOIREC (NANTES, FRANCE)

33 Molecular characteristics of barley starches with variable amylose content
S. YOU & M. S. IZYDORCZYK (WINNIPEG, CANADA)

43 Binding of hexadecyltrimethylammonium bromide to starch polysaccharides. Part I. Surface tension measurements
H. LUNDQVIST, A.-C. ELIASSON & G. OLOFSSON (LUND, SWEDEN)

57 Isolation of xylogalactans from the Corallinales: influence of the extraction method on yields and compositions
D. A. NAVARRO & C. A. STORTZ (BUENOS AIRES, ARGENTINA)

63 Three underutilised sources of starch from the Andean region in Ecuador Part I. Physico-chemical characterisation
S. SANTACRUZ (LUND, SWEDEN), K. KOCH (UPPSALA, SWEDEN), E. SVENSSON (LUND, SWEDEN), J. RUALES (QUITO, ECUADOR) & A.-C. ELIASSON (LUND, SWEDEN)

71 Solid state photocrosslinked starch based films: a new family of homogeneous modified starches
J. DELVILLE, C. JOLY, P. DOLE & C. BLIARD (REIMS, FRANCE)

83 Recognition of starches by Raman spectroscopy
N. DUPUY & J. LAUREYNS (VILLENEUVE D'ASCQ, FRANCE)

91 Developmental change in starch granules in sweetpotato callus
K. KITAHARA, M. ANTOKU, Y. HORI, A. SEDOSHITA & T. SUGANUMA (KAGOSHIMA, JAPAN)

97 Bibliography

101 Calendar

0144–8617/02/$ - see front matter © 2002 Elsevier Science Ltd. All rights reserved

**Number 2**

**Papers**

103 Surface modification of nonporous glass beads with chitosan and their adsorption property for transition metal ions
X. D. LIU (SAPPORO, JAPAN), S. TOKURA (OSAKA, JAPAN), M. HARUKI, N. NISHI & N. SAKAIRI (SAPPORO, JAPAN)

109 Binding of hexadecyltrimethylammonium bromide to starch polysaccharides. Part II. Calorimetric study
H. LUNDQVIST, A.-C. ELIASSON & G. OLOFSSON (LUND, SWEDEN)

121 Cell wall changes in ripening kiwifruit: $^{13}C$ solid state NMR characterisation of relatively rigid cell wall polymers
R. H. NEWMAN (LOWER HUTT, NEW ZEALAND) & R. J. REDGWELL (AUCKLAND, NEW ZEALAND)

131 Dissolution kinetics of guar gum powders. I. Methods for commercial polydisperse samples
Q. WANG, P. R. ELLIS & S. B. ROSS-MURPHY (LONDON, UK)

139 Active edible polysaccharide coating and interactions between solution coating compounds
I. SEBTI & V. COMA (TALENCE, FRANCE)

145 Characterisation of pectins extracted from fresh sugar beet under different conditions using an experimental design
S. LEVIGNE, M.-C. RALET & J.-F. THIBAULT (NANTES, FRANCE)

155 The effect of sugars on the gelatinisation of starch
P. A. PERRY & A. M. DONALD (CAMBRIDGE, UK)

167 Adsorption behavior of oxidized galactomannans onto amino-terminated surfaces and their interaction with bovine serum albumin
M.-R. SIERAKOWSKI, R. A. FREITAS (CURITIBA, BRAZIL), J. FUJIMOTO & D. F. S. PETRI (SÃO PAULO, BRAZIL)

177 Rheological investigation of the interaction between amylose and κ-carrageenan
A. TECANTE & J. L. DOUBLIER (NANTES, FRANCE)

185 Characterization of chitin, chitosan and their carboxymethyl derivatives by differential scanning calorimetry
F. S. KITTUR, K. V. HARISH PRASHANTH, K. UDAYA SANKAR & R. N. THARANATHAN (MYSORE, INDIA)

195 Chemical modification of chitosan 11: chitosan–dendrimer hybrid as a tree like molecule
H. SASHIWA (OTTAWA, ONT., CANADA), Y. SHIGEMASA (TOTTORI, JAPAN) & R. ROY (OTTAWA, ONT., CANADA)

207 Gelation and rheology of xanthan/enzyme-modified guar blends
V. B. PAI & S. A. KHAN (RALEIGH, NC, USA)

217 Structure and functionality of large, medium and small granule starches in normal and waxy barley endosperms
H. TANG, K. WATANABE & T. MITSUNAGA (NARA, JAPAN)

225 Structures of phosphonogalactomannans isolated from mycelia of *Aspergillus versicolor*
C. A. TISCHER, P. A. J. GORIN (CURITIBA, BRAZIL), M. B. DE SOUZA & E. BARRETO-BERGTER (RIO DE JANEIRO, BRAZIL)

231 A CP/MAS $^{13}C$-NMR study of cellulose structure on the surface of refined kraft pulp fibers
E.-L. HULT (STOCKHOLM, SWEDEN), T. LIITIÄ, S. L. MAUNU, B. HORTLING (HELSINKI, FINLAND) & T. IVERSEN (STOCKHOLM, SWEDEN)

**Short communication**

235 Production of fungal chitosan by solid state and submerged fermentation
N. NWE, S. CHANDRKRACHANG, W. F. STEVENS (BANGKOK, THAILAND), T. MAW, T. K. TAN, E. KHOR & S. M. WONG (SINGAPORE, SINGAPORE)

239 Bibliography

247 Calendar

## Number 3

### Papers

249 Analgesic effects of chitin and chitosan
Y. OKAMOTO, K. KAWAKAMI, K. MIYATAKE, M. MORIMOTO, Y. SHIGEMASA & S. MINAMI (TOTTORI, JAPAN)

253 Physicochemical properties of amylose-free starch from transgenic sweet potato
T. NODA, T. KIMURA (KUMAMOTO, JAPAN), M. OTANI (ISHIKAWA, JAPAN), O. IDETA (IBARAKI, JAPAN), T. SHIMADA (ISHIKAWA, JAPAN), A. SAITO & I. SUDA (KUMAMOTO, JAPAN)

261 NMR water mobility in xanthan and locust bean gum mixtures: possible explanation of microbial response
E. VITTADINI, L. C. DICKINSON & P. CHINACHOTI (AMHERST, MA, USA)

271 Thermodynamic and structural properties of starches extracted from potatoes grown at different environmental temperatures
V. A. PROTSEROV, L. A. WASSERMAN (MOSCOW, RUSSIA), R. F. TESTER, S. J. J. DEBON (GLASGOW, UK), M. G. EZERNITSKAJA & V. P. YURYEV (MOSCOW, RUSSIA)

281 Preparation, characterization and in-vitro release of gentamicin from coralline hydroxyapatite–chitosan composite microspheres
M. SIVAKUMAR, I. MANJUBALA & K. PANDURANGA RAO (CHENNAI, INDIA)

289 Structural and physical characterization of octenylsuccinyl β-cyclodextrin
J.-K. CHOI (INCHON, SOUTH KOREA), T. GIREK (CZESTOCHOWA, POLAND), D.-H. SHIN & S.-T. LIM (SEOUL, SOUTH KOREA)

297 Structural and physical characteristics of waxy and other wheat starches
S.-H. YOO & J.-l. JANE (AMES, IA, USA)

307 Molecular weights and gyration radii of amylopectins determined by high-performance size-exclusion chromatography equipped with multi-angle laser-light scattering and refractive index detectors
S.-H. YOO & J.-l. JANE (AMES, IA, USA)

315 Influence of maize starch granule-associated protein on the rheological properties of starch pastes. Part I. Large deformation measurements of paste properties
X.-Z. HAN, O. H. CAMPANELLA (WEST LAFAYETTE, IN, USA), H. GUAN, P. L. KEELING (AMES, IA, USA) & B. R. HAMAKER (WEST LAFAYETTE, IN, USA)

323 Influence of maize starch granule-associated protein on the rheological properties of starch pastes. Part II. Dynamic measurements of viscoelastic properties of starch pastes
X.-Z. HAN, O. H. CAMPANELLA (WEST LAFAYETTE, IN, USA), H. GUAN, P. L. KEELING (AMES, IA, USA) & B. R. HAMAKER (WEST LAFAYETTE, IN, USA)

331 Carbohydrate behaviour of *Arundo donax* L. in ethanol–alkali medium of variable composition during organosolv delignification
A. A. SHATALOV & H. PEREIRA (LISBOA, PORTUGAL)

337 Some structural features of pectic polysaccharide from tansy, *Tanacetum vulgare* L.
A. Y. POLLE, R. G. OVODOVA (SYKTYVKAR, RUSSIAN FEDERATION), A. S. SHASHKOV (MOSCOW, RUSSIAN FEDERATION) & Y. S. OVODOV (SYKTYVKAR, RUSSIAN FEDERATION)

345 Cell-wall polysaccharides in the fruits of Japanese quince (*Chaenomeles japonica*): extraction and preliminary characterisation
M. THOMAS & J.-F. THIBAULT (NANTES, FRANCE)

357 Influence of the *p*-toluenesulphonylation of cellulose on the polymer dynamics investigated by dielectric spectroscopy
J. EINFELDT (ROSTOCK, GERMANY), T. HEINZE, T. LIEBERT (JENA, GERMANY) & A. KWASNIEWSKI (ROSTOCK, GERMANY)

### Short communications

367 Isolation and characterization of a novel polysaccharide from the mucus of the loach, *Misgurnus anguillicaudatus*
C. QIN, K. HUANG & H. XU (WUHAN, PEOPLE'S REPUBLIC OF CHINA)

373 Rapid homogeneous esterification of cellulose induced by microwave irradiation
C. SATGÉ, B. VERNEUIL, P. BRANLAND, R. GRANET, P. KRAUSZ (LIMOGES, FRANCE), J. ROZIER & C. PETIT (EGLETONS, FRANCE)

**Book Reviews**

377 Size Exclusion Chromatography

377 Advances in Chromatography Volume 40

378 Handbook of Water Analysis

378 Bioseparations Engineering

381 Bibliography

385 Calendar

**Number 4**

**Papers**

387 Changes of the dynamic properties of tamarind (*Tamarindus indica*) gel with different saccharose and polysaccharide concentrations
J. A. SALAZAR-MONTOYA, E. G. RAMOS-RAMÍREZ & V. A. DELGADO-REYES (MÉXICO, MEXICO)

393 Effect of reaction temperature and reaction time on the preparation of low-molecular-weight chitosan using phosphoric acid
Z. JIA & D. SHEN (HANGZHOU, PEOPLE'S REPUBLIC OF CHINA)

397 Selective oxidation of carbohydrates by 4-AcNH-TEMPO/peracid systems
P. L. BRAGD, A. C. BESEMER (ZEIST, THE NETHERLANDS) & H. VAN BEKKUM (DELFT, THE NETHERLANDS)

407 Characterization of hop pectins shows the presence of an arabinogalactan-protein
A. OOSTERVELD, A. G. J. VORAGEN & H. A. SCHOLS (WAGENINGEN, THE NETHERLANDS)

415 Fractional and structural characterization of hemicelluloses isolated by alkali and alkaline peroxide from barley straw
R. C. SUN (GUANGZHOU, PEOPLE'S REPUBLIC OF CHINA) & X. F. SUN (YANGLING, PEOPLE'S REPUBLIC OF CHINA)

425 Effect of heat–moisture treatment on the structure and physicochemical properties of tuber and root starches
A. GUNARATNE & R. HOOVER (ST JOHN'S, NFLD, CANADA)

439 Spherulitic crystallization of gelatinized maize starch and its fractions
T. S. NORDMARK & G. R. ZIEGLER (UNIVERSITY PARK, PA, USA)

449 Effects of hydrogen, oxygen, and ammonia low-pressure glow plasma on granular starches
C.-y. Lii, C.-d. LIAO (TAIPEI, TAIWAN, ROC), L. STOBINSKI (WARSAW, POLAND) & P. TOMASIK (CRACOW, POLAND)

457 Molar mass distribution of hydroxypropyl cellulose by size exclusion chromatography with dual light scattering and refractometric detection
B. WITTGREN (MOLNDAL, SWEDEN) & B. PORSCH (PRAGUE, CZECH REPUBLIC)

471 Structural studies on hairy region of pectic polysaccharide from campion *Silene vulgaris* (*Oberna behen*)
O. A. BUSHNEVA, R. G. OVODOVA (SYKTYVKAR, RUSSIAN FEDERATION), A. S. SHASHKOV (MOSCOW, RUSSIAN FEDERATION) & Y. S. OVODOV (SYKTYVKAR, RUSSIAN FEDERATION)

479 Water dispersion kinetics during starch gelatinization
T. D. KARAPANTSIOS, E. P. SAKONIDOU & S. N. RAPHAELIDES (THESSALONIKI, GREECE)

491 Isolation and characterization of soluble sulfated polysaccharide from the red seaweed *Gracilaria cornea*
M. R. S. MELO, J. P. A. FEITOSA, A. L. P. FREITAS & R. C. M. DE PAULA (FORTALEZA, BRAZIL)

499 Behaviour of granular starches in low-pressure glow plasma
C.-y. Lii, C.-d. LIAO (TAIPEI, TAIWAN, ROC), L. STOBINSKI (WARSAW, POLAND) & P. TOMASIK (CRACOW, POLAND)

509 Thermogravimetric study of starch derivatives with amine/ammonium ion-exchanging groups in oxidative environment
I. ŠIMKOVIC & K. CSOMOROVÁ (BRATISLAVA, SLOVAKIA)

**Book Reviews**

515 American Association of Cereal Chemists Approved Methods, 10th ed., CD-ROM

515 Rye: production, chemistry and technology (2nd edition)

516 Handbook of hydrocolloids

516 Herbs, botanicals and teas

518 Calendar

520 Volume Contents